TRAC IV FOR HOSPITAL MACHINE 1-1-65

```
/CORRECTIONS 6 JUNE 1966

LS=074     /BEGIN ERROR COMMENT <
GR=076     /END ERROR COMMENT   >
CM=054     /COMMA
CR=015     /CARRIAGE RETURN
LF=012     /LINE FEED
TB=012     /TAB (NOT USED)
SH=136     /UP ARROW (SHARP SIGN)
LP=050     /LEFT PAREN
RP=051     /RIGHT PAREN
BS=134     /BACKSLASH
SG=100     /SEGMENT GAP FOR TYPEOUT  ~
RM=052     /ARG SEPARATOR FOR TRACE   *
CD=047     /INITIAL META CHARACTER. APOSTROPHE
CT=015     /CONTINUE TRACE    CARRIAGE RETURN
MN=055     /MINUS
N0=060     /ZERO

EXPUNGE LCH

NFM=100
HIH=7600

TYI=IOT 201
TYO=IOT 301

110/

          Q=101
IRPC [C,,ABCDEFGHIJKLMNOPQRSTUVWXYZ]
CHR'C=Q   Q=Q 1
ENDIRPC
```

```
/TYPE CHARACTER IN

LCH,    CLI
        TYI
        J TTET
        RCL 6S
        TYI
        J TTET
        RCR 5S
        RAL 7S
        J RM1

/TYPE CHARACTER OUT

TCR,    W CR
        C TCH
        W LF

TCH,    S (40
        SMA
        J TCB
        A (140
                        J TCA

TCB,    U (74           /REVERSE SLANT
        W 144
        U (76           /UP ARROW
        W 146
        U (77           /BACK ARROW
        W 147
        U (137          /DELETE
        W 174


TCA,    D MAC
        N (77
                        U MAC
        J TCO
        R (770000
        TYO
        J TTET
TCO,    RAR 6S
        TYO
        J TTET
        J RM1
```

```
/ERRORS

TTET,       L 102
            N (2
            QZ I
            J TTE
BREAK,      (770000
            TYO
            NOP
            L (070000       /TYPE BELL WARNING
            TYO
            NOP
            J IN
TTE,        HLT I
            J IN

/FASTRAND IOTS

DEFINE      FRBK
            IOT 6141        /READ ADDRESSED BLOCK
            J DRE
            TERMIN
DEFINE      FWBK
            IOT 6361        /WRITE NON-ADDRESSED BLOCK, HELD
              J DRE
            TERMIN
DEFINE      FEBK
            IOT 6241        /EXPUNGE ADDRESSED BLOCK
            J DRE
            TERMIN

/INITIALIZATION

DEFINE      SWAP
            OPR 60
            TERMIN
DEFINE      HL
            HLT
            TERMIN
DEFINE      META
            L MCH
            RAR 7S
            ADD (1
            RAR 1S
            IOT 1160
            TERMIN

IN,         W CD
            D MCH
            META
            J INR

MIN,
```

```
/TRAC IV 1-1-65 (PART 2)

/CORRECTED 6 JUNE 1966

/DEFINITIONS

DEFINE      DP A
0 A 1       D A
TERMIN

DEFINE      LT A
F A 1       L A
TERMIN

DEFINE      AM B
A B         D B
TERMIN

DEFINE      RD A
W A         G RCH
TERMIN

DEFINE      WR
G WCH
TERMIN

DEFINE      UNDEX B
WI 1        AM B
TERMIN

N=AND       R=IOR           M=XOR         X=XCT         L=LAC         F=LIO
 D=DAC       V=DAP           B=DIP         O=DIO         Z=DZM         A=ADD
 S=SUB       AO=IDX          K=ISP         U=SAD         E=SAS         J=JMP
 P=JSP       Q=SKP           W=LAW         G=JDA         C=CAL

QM=SMA      QP=SPA          QZ=SZA

IRP [OP,,N,D,S,P,R,V,AO,Q,M,B,K,W,X,O,U,L,Z,E,F,A,J]
O P'I=OP I
ENDIRP

IRP [OP,,HA,HC,HI,HB,HD,HJ],[SR,,RAL,RCL,RIL,SAL,SCL,SIL]
DEFINE      OP K
SHIFT K,SR
TERMIN
ENDIRP

DEFINE      SHIFT K,P
REPEAT 1IF VP K             P K'S         STOP
P I'K'S"X"777777
TERMIN

CH=400000
```

```
/SUBROUTINE HANDLER

100/

MAC,        J WCO
            J MIN

MIN/        S (1
            V ML
            AO PDR
            U LOW
            P GC
            L ML
            DI PDR
ML,         L
            V MJ
            L MAC
MJ,         J .
RA1,        D MAC
RM1,        W 1
RMN,        AI PDR
RMD,        V R1
RMS,        UNDEX PDR
RMX,        L MAC
R1,         J .
RA2,        D MAC
RM2,        W 2
            J RMN
```

```
/READ CHARACTER FROM STRING

RCH,    Ø
        V RCØ
        W 1
        A RCH
        D GCM
        LI RCH
        UI GCM
        J RCØ
        A (CH
        DI RCH
        D RCH
        FI RCH
        QP
        HI 9
        AO RCØ
        CLA
        HC 9
        D MAC
RCØ,    J .

/WRITE CHARACTER IN STRING

WCH,    Ø
        V WCX
        L WCP
        A (CH
        D WCP
        D WCP 1
        AO WCP 1
        S CFM
        HA 1
        QM 6
        P SC1
        L WCP
        FI WCP
        QM
        J WC2
        L WCH
        HC -9
        HI 9
WCY,    OI WCP
WCX,    J .
WC2,    L WCH
        HI 9
        HC -9
        J WCY
```

```
/COPY STRING

CST,    DP ST0
CSA,    RD ST0
        J RM1
        WR
        J CSA

/MOVE BLOCK OF WORDS UP OR DOWN

MBK,    0
        V MBX
MBE,    L MBK
        S MDS
        SPQ
        J MBU
MBN,    L MDS
        D M0
        L MBK
MBD,    U MHI
MBX,    J .
        LI MBK
        DI M0
        AO M0
        AO MBK
        J MBD
MBU,    QZ I
        J MBX
        D M1
        L MBK
        S MHI
        QM
        J MBN
        L MHI
        D M2
        S M1
MBW,    U MDS
        J MBX
        UNDEX M2
        S M1
        D M0
        FI M2
        OI M0
        J MBW-
```

```
/PUSH AND POP SINGLE WORDS

PPW,        FI PDR
            O MAC
            J RMD
PSW,        Ø
            V PSX
            AO PDR
            U LOW
            P GC
            L PSW
            DI PDR
PSX,        J .

/REFERENCE ARG TABLE

RAT,        A ATB
            D TØ
            LI TØ
            D MAC
            AO TØ
            FI TØ
            S ATT
            SPQ
            J RM1
            L ATL
            F ATL
            J RA1
```

```
/LOAD A STRING

LST,    C LCH
        U MCH
        J RM1
        U (BS
        J LSB
        WR
        J LST
LSB,    L WCP
        U VLØ
        J LSR
        S (CH
        D WCP
        J LST
LSR,    C TCR
        J LST

/TYPE STRING

TST,    DP STØ
TS1,    RD STØ
        J RM1
        N (377
        E MAC
        J TSG
        C TCH
        J TS1
TSG,    C TWD
        W SG
        C TCH
        J TS1
```

```
/TEST FOR EQUALITY

CEQ,        DP CS1
CE1,        RD CS1
            J CE2
            D T0
            RD CS2
            J RM1
            E T0
            J RM1
            J CE1
CE2,        L CS2
            E CS2 1
            J RM1
            J RM2

/HASH CODING FUNCTION

HCF,        DP ST0
            RD ST0
            L .
            HA 9
            A ST0 1
            S ST0
            D MAC
            MUL MAC
            O MAC
            A MAC
            HA -4
            N (NFM-1
            A (OPT
            J RA1
```

```
/STORAGE MOVER IN CASE OF OVERFLOW

SC1,    V MBX
        L LOW
        S PDR
        N (CH-100
        QZ I
        J SCE
        W 100
        J SC0
SC2,    V MBX
        L WCP
        D WCP 1
        AO WCP 1
        L CFM
        S WCP 1
        N (CH-100
        QZ I
        J SCE
        WI 100
SC0,    D G0
        AM PDO
        AO PDR
        D MHI
        A G0
        S (1
        D PDR
        L CFM
        A (CH
        N (-CH
        D MBK
        A G0
        D MDS
        L G0
        AM CFM
        L G0
        AM CFM 1
        L G0
        AM ATB
        L G0
        AM ATT
        J MBE
```

```
/LOOK UP NAME IN TABLE

LFM,    DP CS2
        D T3
        C HCF
        Z GØ
LFØ,    D PFF
        LI PFF
        QZ I
        J LF3
        QP
        J LF2
        D PFE
        A (1
        D PFV
        L PFE
        SI PFV
        SWAP
        L PFE
        SI PFE
        C CEQ
        J LF1
        W 1
        A PFV
        D PFP
        Z GØ
        AOI PDR
LF3,    F PFF
        L GØ
        QZ I
        O GØ
        J RM1
LF2,    F PFF
        L GØ
        QZ I
        O GØ
LF1,    L T3
        D CS2
        AO PFF
        U (OPT NFM
        W OPT
        J LFØ
```

```
/INSERT FORM WITH DEFINITION

IFN,    L ATL
        F ATL
IFM,    DP ST1
        L GØ
        D PFF
        F WCP
        O VLØ
IFE,    WI 3
        A LOW
        D PFE
        D PFV
        S (CH
        A T3
        S CS2 1
        A ST1
        S ST1 1
        D MAC
        QP
        A (CH
        D PFP
        S PDR
        SPQ
        J IFC
        L MAC
        D WCP
        L PFP
        D LOW
        L PFE
        DI PFF
        S WCP
        DI PFE
        L T3
        F CS2 1
        CLF 6
        C CST
        AO PFV
        D PFP
        AO PFP
        L PFE
        S WCP
        DI PFV
        DI PFP
        LT ST1
        C CST
        STF 6
        L VLØ
        D WCP
        J RM1
IFC,    P GC
        J IFE
```

```
/GARBAGE COLLECTOR, REVERSING PHASE

GC,         V GCX
            W OPT
            V GR1
            O GCI
GRØ,        W 2
GR1,        A
            E (1
            U (2
            J GR2
            D TØ
            LI TØ
            QZ I
            J GR2
            DI GR1
            L GR1
            DI TØ
GR2,        AO GR1
            E (A OPT NFM
            J GRØ
```

```
/GARBAGE COLLECTOR, COMPACTING PHASE

            L (HIH
            D MDS
GC1,        D MHI
            U LOW
            J GCY
            S (1
            D TØ
            S (1
            D T1
            S (1
            D T2
            LI TØ
            QZ
            J GC2
            L T2
            SI T2
            QP
            A (CH
            J GC1
GCY,        L MDS
            U LOW
            J GCS
            D LOW
GCZ,        F GCI
GCX,        J .
GC2,        D GØ
            LI GØ
            DI TØ
            L T2
            A MDS
            S MHI
            DI GØ
            L T2
            SI T2
            QP
            A (CH
            D GØ
            L MDS
            A GØ
            S MHI
            D MDS
            L GØ
            G MBK
            L GØ
            J GC1
GCS,        P SC2
            J GCZ
```

```
/READ A PROGRAM CHARACTER

PC,         V PCX
            RD CFM
            J INR
PCX,        J .

/COPY STRING INTO ACTIVE AREA

CIN,        DP STØ
CIE,        S STØ 1
            A CFM
            D TØ
            L WCP
            D WCP 1
            AO WCP 1
            L TØ
            S WCP 1
            HA 1
            QP
            J CIG
            CLF 7
            L TØ
            D WCP
            D CFM
            C CSA
            STF 6
            L VL1
            D WCP
            J RM1
CIG,        P SC1
            L STØ
            J CIE
```

```
/END A FUNCTION, GO EXECUTE

TSR,    W RM
        J TCH-1
EFT,    C TSR
        L ATB
        D T2
EF1,    L T2
        U ATT
        J EFR
        D T1
        AO T2
        LI T1
        FI T2
        C TST
        C TSR
        J EF1
EFR,    C TCR
        C LCH
        E CCT
        J INR
```

```
EF,     L WCP
        D VL1
        D VLØ
        W Ø
        C RAT
        DP STØ
        A (2"T"CH
        E STØ 1
        J EFØ
        FI STØ 1
        QP
        J EFD
        LI STØ
        HC -9
EFD,    O T2
        W EFL
        V EFS
EFS,    L
        U T2
        J EFF
        AO EFS
        AO EFS
        E EFU
        J EFS
EFØ,    FI ATB
        O VL1
        W Ø
        C RIT 1
        J FRN
        Z CLV
        J CLE
EFF,    AO EFS
        FI ATB
        S (L EFM
        QP
        F VL1
        O VLØ
        O WCP
        LI ATB
        D VL1
        JI EFS
```

```
/FUNCTION RETURN

FRA,    C RAT
        D VLØ
        O WCP
FR,     CLF 3
        L ATB
        S (1
        N (-CH
        D PDR
        SI PDR
        QP
        A (CH
        D ATB
        P PPW
        QM
        J FR1
        L VL1
        U VLØ
        J AR
        F WCP
        D WCP
        L VLØ
        C CST
        J AR
FRN,    L ATB
        S (1
        N (-CH
        D PDR
        P PPW
        R (CH
        A (CH
        CMA
        AM ATB
        L VL1
        D WCP
        J AR
FR1,    L VLØ
        F WCP
        C CIN
        J AR
```

```
/READ A NAME AND LOOK UP

RNT,        C RAT
            J LFM
RIT,        W 1
            C RNT
            J RM1
            AOI PDR
            L PFE
            S (CH
            D STØ 1
            L PFE
            SI PFP
            D STØ
            J RA1

/SOME FUNCTIONS

ØRC,        C LCH
            WR
            J FR

ØRS,        C LST
            J FR

ØPS,        W 1
            C RAT
            C TST
            J FRN

ØCM,        W 1
            C RAT
            DP STØ
            RD STØ
            J FRN
            D MCH
            META
            J FRN

ØPF,        C RIT
            J FRN
            F STØ 1
            C TST
            J FRN
```

```
/MORE FUNCTIONS

ØCR,    W 1
        C RNT
        J FRN
        LI PFV
        DI PFP
        J FRN

ØCC,    C RIT
        J CCF
        STF 3
CCN,    RD STØ
        J CCF
        N (377
        E MAC
        J CCN
        WR
CEX,    L PFE
        S STØ
        DI PFP
        J FR
CCE,    W,M2
        J FRA

ØCS,    C RIT
        J CCF
        RD STØ
        J CCF
        STF 3
CSN,    N (377
        E MAC
        J CEX
        WR
        RD STØ
        J CEX
        J CSN

CCF,    W 2
        J CCG 1
CCG,    W 3
        C RAT
        D VLØ
        O WCP
        CLF 3
        L ATB
        S (1
        N (-CH
        D PDR
        SI PDR
        QP
        A (CH
        D ATB
        P PPW
        J FR1
```

```
/INVARIANT INITIALIZATION

INR,        W EF
            V ARJ
            L PDO
            D PDR
            WI 1
            G PSW
            L ATL
            G PSW
            L PDR
            D ATB
            W 1
            A PDO
            D CFM 1
            D CFM
            C TCR
            L ATL
            D VL1
            D WCP
            CLF 7
            STF 6
            W INF
            F (INF 13"T"CH
            C CIN
```

```
/MAIN PROCESSOR

AR,     P PC
        U (SH
        J ASH
        U (LP
        J ALA
        U (CM
        J ACM
        U (RP
        J ARP
        E (CR
        U (LF
        J AR
        U (TB
        J AR
ARW,    WR
        J AR
ACM,    L WCP
        G PSW
        J AR
ALP,    V ALX
        LI ALX
        D ALW
        AO ALX
        L (LP"T"CH-RP"T"CH
        D T2
ALC,    P PC
        E (RP
        U (LP
        J ALM
ALW,    Ø
        J ALC
ALM,    S (LP"T"CH+RP"T"CH
        A T2
        D T2
        QZ I
ALX,    J .
        L MAC
        J ALW
```

```
ARP,    LI PDR
        HA 1
        QP
        J PER
        L WCP
        G PSW
        L PDR
        D ATT
        CKTTY
ARJ,    J EF
ASH,    P PC
        E (SH
        J AST
        P PC
        U (LP
        J ASU
        V . 3
        W SH
        WR
        W
        J ASH
AST,    U (LP
        J ABF
        E (CR
        U (LF
        J ARW
        U (TB
        J ARW
        V AS1
        W SH
        WR
AS1,    W
        J AR 1
ASU,    L ATB
        S (CH
        D ATB
ABF,    W,"1
        A PDR
        S ATB
        G PSW
        L WCP
        G PSW
        L PDR
        D ATB
        J AR
ALA,    P ALP
        WR
        J AR
```

```
/NEW FUNCTIONS

/NAME BRANCH AND CHARACTERS AVAILABLE

ØNB,    W 1
        C RNT
        J EQ3
        J CCE


ØCA,    P GC
                        L WCP
        N (-CH
        D CAR
        L CFM
        N (-CH
        S CAR
        D CAR
        L PDR
        N (-CH
        S CAR
        D CAR
        L LOW
        N (-CH
        S CAR
        SAL 1
        J DNW
CAR,    Ø
```

```
/TRAC IV 1-1-65 (PART 3)

/NUMBER USING FUNCTIONS

ØBI,    C BR2
        N T3
BNW,    C BWR
        J FR
ØBU,    C BR2
        R T3
        J BNW
ØBC,    C BR1
        CMA
        J BNW

ØAD,    C DR2
        A T3
DNW,    C DWR
        J FR
ØSU,    C DR2
        S T3
        J DNW
ØML,    C DR2
        MUL T3
        O MAC
        A MAC
        HA -1
        J DNW
ØDV,    C DR2
        MUL (1
        DIV T3
        J OVF
        J DNW

ØGR,    C DR2
        CLO
        S T3
        SZO
        CMA
        QP
        J EQ4
        J EQ3
```

```
/SHIFT AND ROTATE

BRS,    C DR1
        F (66
        QP
        F (67
        QM
        CMA
        D T3
        HC -6
        B BRI
        W 2
        J BRD

ØBR,    C BRS
        CLC
        U T3
        J BRX
        F MAC
BRM,    L MAC
BRI,    HC 1
        D MAC
        K T3
        J BRM
BRZ,    O MAC
BRX,    L MAC
        J BNW
ØBS,    C BRS
        CLC
        U T3
        J BRX
        L BRI
        A (SCL-RCL
        D BSI
        F MAC
BSM,    CLA
BSI,    HD 1
        K T3
        J BSM
        J BRZ
```

```
/READ AND WRITE WORD

FWI,    CLC
        U XB
        J RM1
        F XB
        W XB
        V FWP
        FRBK
FWR,    AO FWP
        U (L XB+50.
        J FWI
FWP,    L
        J RA2

FWO,    W XB
        FWBK
        O XB
        W XB+50.
        V FWS
FWW,    WI 1
        A FWS
        V FWS
        U (D XB
        J FWO
        L MAC
FWS,    D
        J RM1
```

```
/STORE BLOCK FUNCTION

ØSB,    CLC
        D XB
        W XB+5Ø.
        V FWS
        W,*2
        A ATB
        D T2
SB1,    L T2
        E ATT
        J SB2
        C FWW
        L FWS
        D XB+1
        C FWO
        L XB
        C BWR
        W 1
        C RAT
        C LFM
        J .+2
        ZI PFP
        L VLØ
        F WCP
        C IFM
        J FRN
```

```
SB2,    L  T2
        D  T1
        AO T2
        LI T1
        FI T2
        C  LFM
        C  IFN
        L  PFE
        SI PFE
        QP
        A  (CH
        D  T3
SB3,    LI T3
        C  FWW
        AO T3
        S  (1
        E  PFP
        J  SB3
        ZI PFP
        WI 1
        DI PFF
        J  SB1
```

```
/ERASE BLOCK FUNCTION

ØEB,        C FPD
            J FRN
            D XB
            ZI PFP
            WI 1
            DI PFF
EB1,        F XB
            SPI
            J FRN
            W XB
            FRBK
            FEBK
            J EB1

FPD,        C RIT
            J RM1
            W,^10
            D T1
            C NRZ
            SZM
            J RM2
            J RM1

XB,         XB+5Ø./
```

```
/FETCH BLOCK FUNCTION

ØFB,    C FPD
        J FRN
        D XB
        C FWI
        J PER
        V FWP
FB1,    C FWR
        J FRN
        D PFP
        C FWR
        J PER
        D PFV
        C FWR
        J PER
        D PFE
FB2,    WI 3
        A LOW
        D TØ
        D T1
        S PFE
        QP
        A (CH
        D T2
        S PDR
        SZM
        J FB3
        P GC
        J FB2
```

```
FB3,    L T2
        D LOW
        F PFE
        L TØ
        D PFE
        D ST1
        OI TØ
        AO TØ
        F PFV
        D PFV
        OI TØ
        AO TØ
        F PFP
        D PFP
        OI TØ
FB4,    L T1
        U T2
        J FB5
        S (1
        D T1
        C FWR
        J PER
        DI T1
        J FB4
FB5,    L PFE
        SI PFV
        SWAP
        L PFE
        SI PFE
        C LFM
        J .+2
        ZI PFP
        L ST1
        DI GØ
        J FB1

/HALT

ØHL,    C TCR
        HL
        J FRN
```

```
/TYPE OUT WORD

TWD,        F WCP
            O CS1
            D T3
            C NWS
            L WCP
            D CS1 1
            L CS1
            D WCP
TWC,        RD CS1
            J RM1
            C TCH
            J TWC

/WRITE NUMBER

DWR,        D T3
            LT CS1
            C CST
            L T3
            QM
            J NWS
            CMA
            D T3
            W MN
            WR
NWS,        W 12
            J NWR
BWR,        D T3
            W 10
NWR,        D NWB
            Z CS2
NW4,        L T3
NW3,        D CS2 1
            CLI
            HC -8
            HC -9
            DIV NWB
NWB,        10
            E CS2
            J NW3
            SWAP
            A (N0
            WR
            L CS2 1
            U T3
            J RM1
            D CS2
            J NW4
```

```
/READ NUMBER

DR2,        W 2
            C DRD
            D T3
DR1,        W 1
DRD,        F (12
            J NRD
BR2,        W 2
            C BRD
            D T3
BR1,        W,M1
BRD,        F (10
NRD,        O T1
            C RAT
            D CS1
            DP ST0
NRZ,        Z T2
            CLF 5
            L ST0
            D CS1 1
            CLF 4
NRN,        RD ST0
            J NRX
            U (MN
            J NRS
            S (N0
            QP
            J NRZ
            D MAC
            S T1
            QM
            J NRZ
```

```
                L T2
                MUL T1
                HD -1
                A MAC
                E MAC
                J OVF
                O MAC
                A MAC
                QZ
                J . 3
                E T2
                CLC
                D T2
                STF 5
                J NRN
NRS,            SZF 5
                J NRZ
                STF 5
                STF 4
                J NRN
NRX,            L T2
                SZF 4
                CMA
                J RA1
```

```
/LIST NAMES

ØLN,        Z T3
            W OPT-1
            V LNA
LNN,        AO LNA
            U (L OPT+NFM
            J FR
LNA,        L
            SPQ
            J LNN
            AO T3
            W 1
            C RAT
            C CST
LNW,        LI LNA
            D PFE
            SI PFE
            D STØ
            AO PFE
            SI PFE
            S (1
            D STØ 1
            C CSA
            J LNN

/DEFINE AS EQUAL

ØDE,        W 2
            C RIT+1
            J FRN
            L PFE
            SI PFV
            F STØ 1
            DP ST1
            LI PFP
            D CLV
            W 1
            C RNT
            J .+2
            ZI PFP
            LT ST1
            C IFM
            L CLV
            DI PFP
            J FRN
```

```
/AND STILL MORE FUNCTIONS

ØEQ,        W 1
            C RAT
            DP CS2
            W 2
            C RAT
            C CEQ
            J EQ4
EQ3,        W 3
            J FRA
EQ4,        W 4
            J FRA

ØCL,        C RIT
            J FRN
            F (1
            O CLV
CLE,        D ST1
            L STØ 1
            D ST1 1
CL1,        RD ST1
            J FR
            N (377
            E MAC
            J CLG
            WR
            J CL1
CLG,        A CLV
            C RAT
            C CST
            J CL1

ØDS,        W 1
            C RNT
            J .+2
            ZI PFP
            W 2
            C RAT
            C IFM
            J FRN

ØDD,        W 1
            C RNT
            J FRN
            ZI PFP
            WI 1
            DI PFF
            J FRN
```

```
/EVEN MORE FUNCTIONS

ØSK,    P ALP
        NOP
        W 1
        J FRA

ØTN,    W EFT
        V ARJ
        J FRN
ØTF,    W EF
        J ØTN 1

ØCN,    W 2
        C DRD
        SPQ
        J CEX
        V CNN
        C RIT
        J CCG
        U STØ 1
        J CCG
CNN,    WI
        D T3
        STF 3
CNC,    RD STØ
        J CEX
        N (377
        E MAC
        J CNC
        WR
        K T3
        J CNC
        J CEX

ØDA,    L (HIH
        D LOW
        W OPT
        V DA1
DA1,    Z
        AO DA1
        E (Z OPT+NFM
        J DA1
        J FRN
```

```
/SEGMENTER

ØSS,    C RIT
        J FRN
        F STØ 1
        STF 3
        C CST
        W 2
        A ATB
        D T2
SS1,    L T2
        U ATT
        J SSI
        D T1
        F WCP
        L VLØ
        O ST1 1
        D ST1
        D WCP
SS2,    LI T1
        FI T2
        C SRE
        J SS4
        L GCI
        F T3
        C CST
        W 376
        A T2
        S ATB
        WR
        J SS2
SSI,    L VLØ
        F WCP
        DP ST1
DFE,    W 1
        C RNT
        J .+2
        ZI PFP
        LT VLØ
        C IFM
        J FRN
SS4,    L GCI
        F T3
        C CST
        J SS1
```

```
/SEARCHING FUNCTIONS

SRE,    DP ST0
        D T0
        L ST1
        D GCI
SRD,    D T3
        D ST1
SRR,    RD ST0
        J RM2
        D G0
        RD ST1
        J SRN
        U G0
        J SRR
SRN,    L T0
        D ST0
        L T3
        U ST1+1
        J RM1
        A (CH
        J SRD

0IN,    C RIT
        J CCG
        F ST0 1
        DP ST1
        W 2
        C RAT
        C SRE
        J IN1
        L GCI
        F T3
        C CST
        L ST1
        D ST0
        J CEX
IN1,    L PFE
        S GCI
        DI PFP
        J CCG
```

```
/STORAGE AND PARAMETERS

DEFINE      ZZ
Ø           Ø
TERMIN

PDR,        PDL-1
TØ,         Ø
T1,         Ø
T2,         Ø
T3,         Ø
VL1,        WCO-CH
VLØ,        WCO-CH
WCP,        WCO-CH
WCP 1,      Ø
LOW,        HIH
PDO,        PDL-1
CAS,        Ø
MDS,        Ø
MHI,        Ø
STØ,        ZZ
MCH,        CD
ATB,        PDL
ATT,        PDL
CFM,        ZZ
CS1,        ZZ
CS2,        ZZ
ST1,        ZZ
PFF,        OPT
PFE,        HIH-3
PFV,        HIH-2
PFP,        HIH-1
GØ,         Ø
GCI,        Ø
GCM,        Ø
CLV,        Ø
MØ,         Ø
M1,         Ø
M2,         Ø
ATL,        WCO-CH
```

```
DEFINE      ERROR A,B,C
            LS
            CHR'A"T"1000 CHR'B
            CHR'C"T"1000 GR
            TERMIN

PES,        ERROR P,E,R
SES,        ERROR S,C,E
OES,        ERROR O,V,F
DES,        ERROR D,R,E
PER,        W PES
            F (PES 5"T"CH
            C TST
            J INR
SCE,        L PDO
            D PDR
            L CFM 1
            D CFM
            W SES
            F (SES 5"T"CH
            J PER 2
OVF,        W OES
            F (OES 5"T"CH
            J PER 2
DRE,        W DES
            F (DES 5"T"CH
            J PER 2

INF,        SH
            LP"T"1000 CHRP
            CHRS"T"1000 CM
            SH"T"1000 LP
            CHRR"T"1000 CHRS
            RP"T"1000 RP

CONSTANTS

OPT,        OPT NFM/
```

```
/SYMBOL TABLE

DEFINE     FN C1,C2
CHR'C1"T"1000 CHR'C2
J 0'C1'C2
TERMIN

EFL,
            FN S,S
            FN C,L
            FN L,N
            FN S,B
EFM,        FN S,K
            FN S,U
            FN P,F
            FN P,S
            FN R,C
            FN R,S
            FN C,S
            FN C,M
            FN C,R
            FN C,C
            FN C,N
            FN D,S
            FN D,E
            FN D,V
            FN D,D
            FN D,A
            FN T,N
            FN T,F
            FN B,U
            FN B,I
            FN B,C
            FN B,S
            FN B,R
            FN M,L
            FN A,D
            FN G,R
            FN E,Q
            FN F,B
            FN E,B
            FN I,N
            FN C,A
            FN N,B
            FN H,L
REPEAT 6    0                J PER
EFU,        L .

WCO,        Z OPT
            A0 WCO
            E .+3
            J WO
            J IN
            Z OPT+NFM

PDL=WCO+HIH
PDL=PDL"T"CH"A"177777

START 100
```